

ABSTRACT OF THE DISCLOSURE

The control inputs of reset switch elements 41 to 45 are commonly connected to a row reset line 51. In a line black clamp type, cathodes as reset ends of photodiodes (31) of optical black pixels 21 to 23 are commonly connected to a potential averaging line 30. In a frame black clamp type, potential averaging lines are connected similarly to respective pixel rows on the vertical scanning start side of an optical black pixel region, and the potential averaging lines may be commonly connected to each other to operate just like one pixel row. A first block includes a pixel array and a vertical scanning circuit, while a second block includes sample and hold circuits, a horizontal scanning circuit, an amplifier and an A/D converter 19. In a low power consumption mode, power supply to the second block is ceased in a light integration period of one frame with performing light integration in the pixel array, power supply to the first and second blocks is performed in a read-out period of one frame to read out integrated signals, and power supply to the first and second blocks is ceased in a power-off period of one frame.

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